

## STATEMENT OF WORK

**Project Name:** Question Generation using AI (Phase-1)

**Client:** LOVEMYTEST.COM

**Vendor:** S&R Developers

**Date:** 01 May 2025

### 1. Introduction

This Statement of Work (SOW) outlines the scope, deliverables, timelines, and responsibilities for the development of an AI-powered **Question Generation System** for LOVEMYTEST.COM. The system will generate **nine (9) different types of questions** based on school curriculum content, store them in a MySQL database, and provide a user-friendly interface for question management.

### 2. Project Objectives

- Develop an AI-powered system to generate **nine (9) question types** (MCQ, Fill in the Blanks, True/False, etc.).
- Allow selection of **difficulty levels** (Easy, Medium, Hard) and **cognitive levels** (Knowledge, Understanding, Application, etc.).
- Store questions in a structured MySQL database with metadata (Class, Subject, Topic, Marks, etc.).
- Prevent duplicate questions and mark similar questions.
- Provide a **UI for uploading PDF/DOC/TXT files** and configuring question generation.
- Integrate **OpenAI GPT-4/Turbo Mini** for AI-based question generation.
- Support **LaTeX formatting** for mathematical equations.
- Ensure seamless integration with the existing LOVEMYTEST.COM system.

### 3. Scope of Work

#### 3.1. Question Types to be Developed (Phase-1)

Q-Type ID	Question Type	Description	Marks	Answer Length
QTYPE-1	Multiple Choice (MCQ)	4 options, single correct answer	1	10-40 words
QTYPE-2	Fill in the Blanks (FIB)	One-word answer	1	10-40 words
QTYPE-3	True or False (TF)	Binary answer (True/False)	1	10-40 words

Q-Type ID	Question Type	Description	Marks	Answer Length
QTYPE-4	Very Short Answer (VSA)	Brief answer	1	10-40 words
QTYPE-5	Match the Following (MTF)	Pair matching (Correct pairs only needed)	1	10-40 words
QTYPE-6	Short Answer (SA)	Short answer (2 points)	2	20-60 words
QTYPE-8	Long Answer (LA)	Comprehensive answer (3 points)	3	50-100 words
QTYPE-10	Very Long Answer (VLA)	Extensive answer (4+ points)	4	100-200 words
QTYPE-13	Numerical (NU)	Single numerical answer (max up to 2 digits)	1	10-40 words

### 3.2. Functional Requirements

- **Input Methods:**
  - Upload PDF, Word, or TXT files.
  - Select Class, Subject, Book, Topic from dropdowns (or pick automatically)
  - Set Difficulty Level (Easy/Medium/Hard) and Cognitive Level (1-6).
  - Option to add a custom prompt
  - Option to pick existing questions as it is from the given content with generated answers
- **Question Generation Logic:**
  - AI generates X number of questions per request.
  - Checks for duplicate questions in the database.
  - Marks similar questions with a reference questionID (in similarto field).
  - Supports LaTeX for equations.
- **Database Integration:**
  - Stores questions in MySQL with fields:
    - class, subject, book, topic, mark, user, school, user\_email, added\_time, source, level, cognitive (may be few more not foresighted)
  - Mark questions as **Textbook/ General/ External**
    - Text Book (Exact questions picked from the given content): textbookqstn=1
    - General Questions (Generated based on book content): textbookqstn=2
    - External Questions (Generated based on external content): : textbookqstn=7
  - Flags: approved=0 (pending SME validation).